

## DISCLAIMER

- This presentation is not an attempt to again try to define what Sustainable agriculture is or is not. It is, instead, an effort to point out what the broad spectrum of thought there is about the subject; to raise the awareness level of what considerations need to be on the table when we discuss Sustainable Agriculture, and through your upcoming research project begin to see possibilities for connecting your students to Sustainable Agriculture.

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## A SENSE OF PLACE

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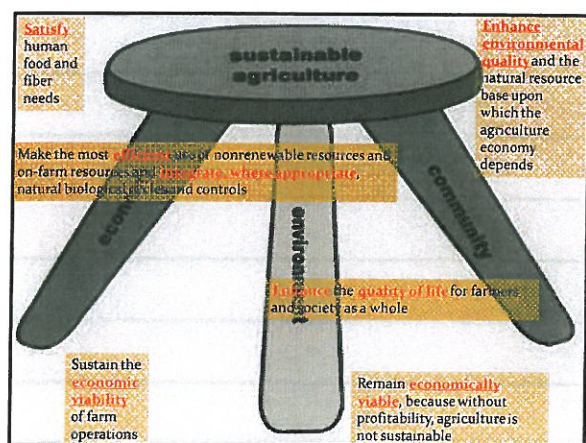
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What questions do we need to be asking when we attempt to understand the many facets of Sustainable Agriculture?  
 What do the terms ECONOMIC, SOCIAL and ENVIRONMENTAL mean in the context of Sustainable Agriculture?  
 How do I connect the specific research project and its data to the three concepts of Sustainable agriculture?  
 How do I convey this concentric characteristic to my students in the classroom?

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**Our Lives Are All About Decisions**

- We can choose sustainable or not.
- But we need to know and understand what is sustainable in order to choose sustainable.

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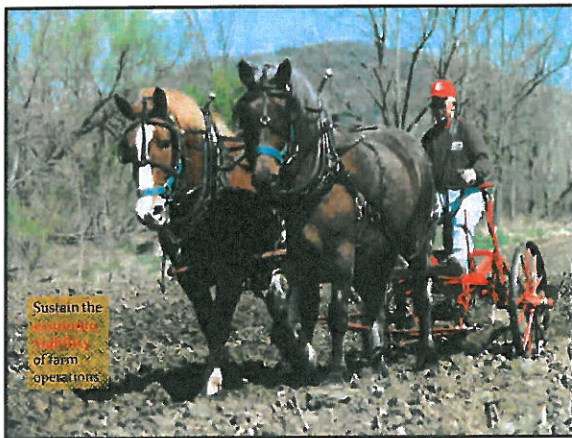
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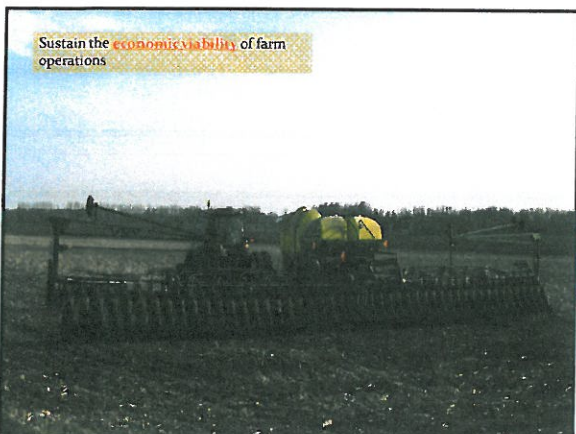
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The *tragedy of the commons* can be seen as a collective *prisoner's dilemma*. Individuals within a group have two options: cooperate with the group or defect from the group. Cooperation happens when individuals agree to protect a **common resource** to avoid the tragedy.

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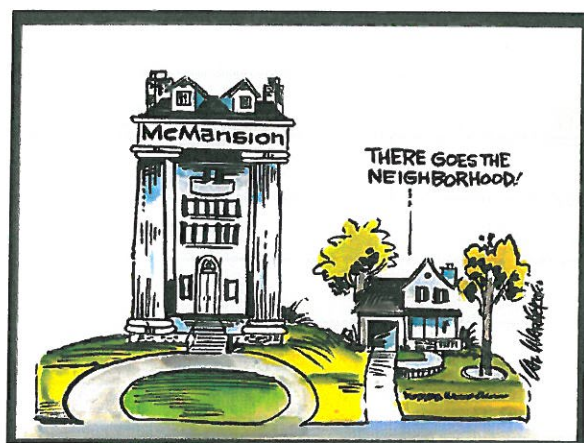
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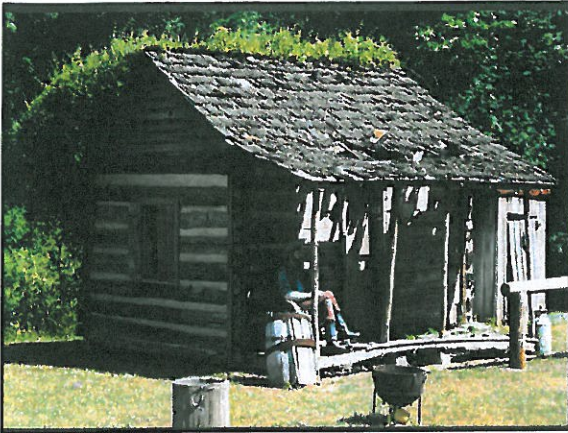
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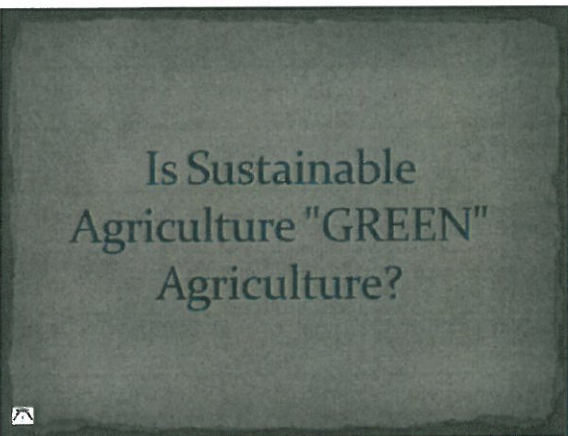
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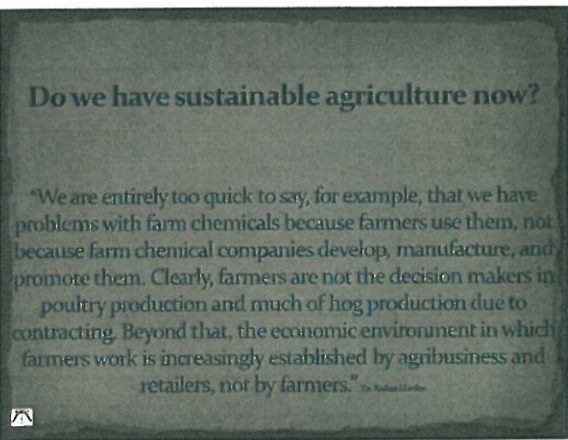
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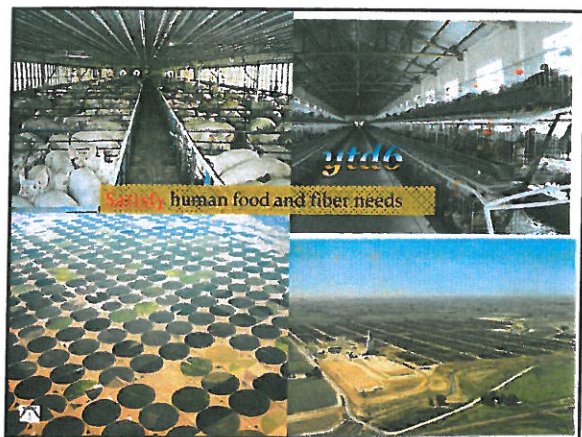
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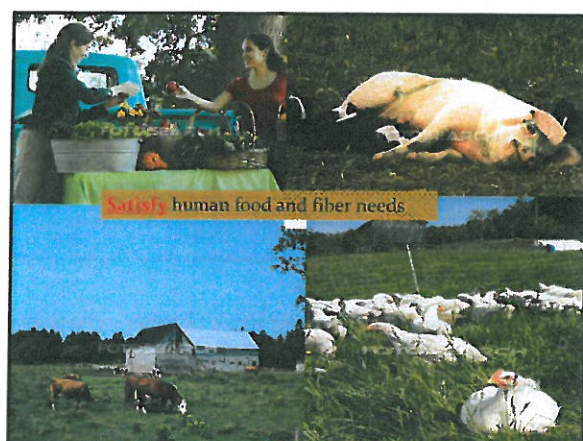
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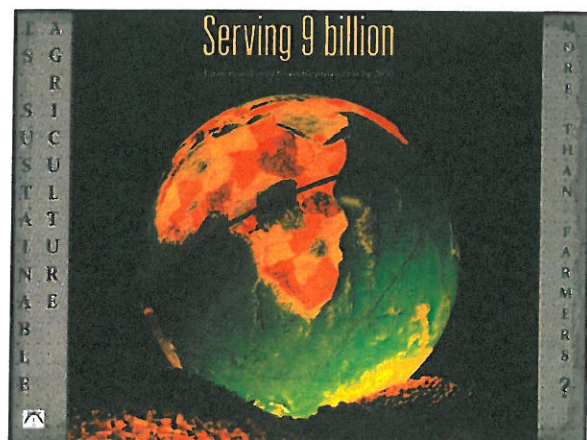
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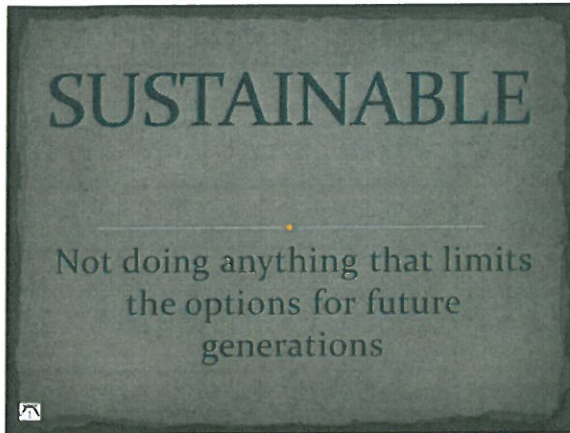
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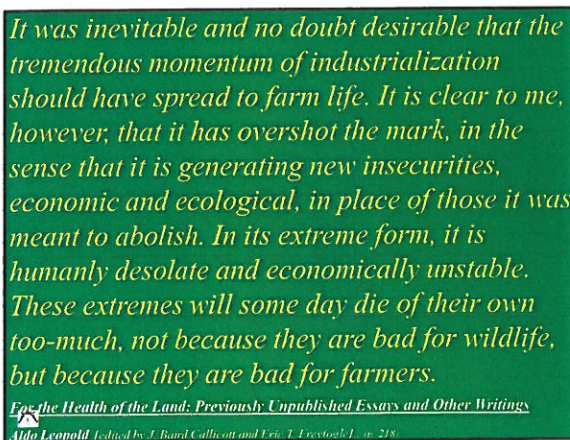
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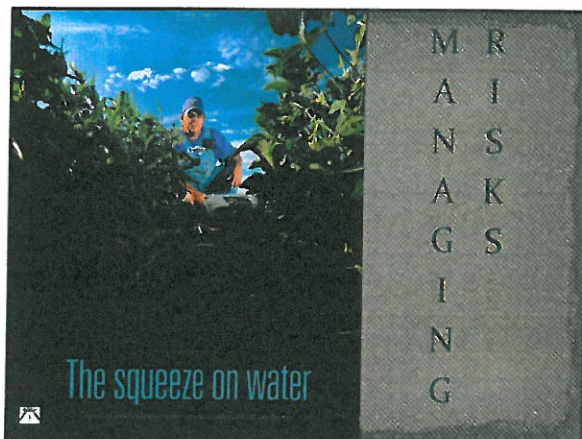
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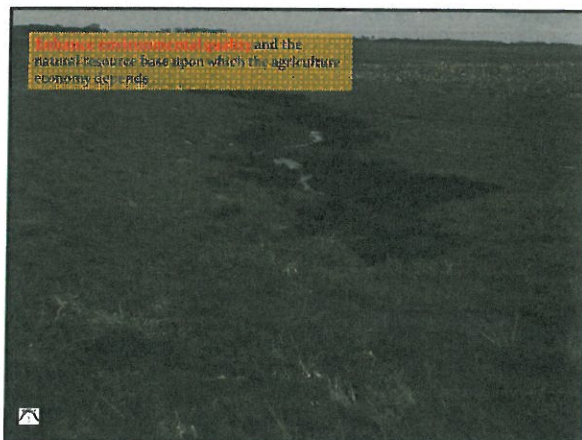
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The cause of any *tragedy of the commons* is that when individuals use a *public good*, they do not bear the entire cost of their actions.



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1. Is growing food meant to be an occupation from which to make a good living, or is it only a part time job requiring a second job away from the field?
2. Can raising safe, reliable and adequate amounts of food only be accomplished with government subsidies, tight margins and efficiencies of scale?
3. Is growing food more than raising commodities with the use of a non-owner/operator labor force?
4. How does the ratio of eyes to acres compare to the ratio of say eyes to students, or eyes to patients?



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**SOCIAL COST** is the total of all the costs associated with an economic activity. It includes both costs borne by the *economic agent (farmer)* and also all costs borne by *society at large (consumer)*

It includes the costs reflected in the production function (called private costs) and the costs external to the production function (called external costs).



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If social costs are greater than private costs, then a negative externality is present. Environmental pollution is an example of a social cost that may not be borne completely by the polluter.

If private costs are greater than social costs, then a positive externality exists. Relatively inexpensive, safe and abundant food supplies exist for many Americans

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"The act of farming well changes the mind and the way of thinking

Farming, when you do it well, demands that you be in a relationship with life, outside of your self-concerns

"...you're had by life if you're doing it well"

"To do it well you eventually are had by it"

As I have written Ted Koppel, "Through a 19th Century Window: The American Farmer"

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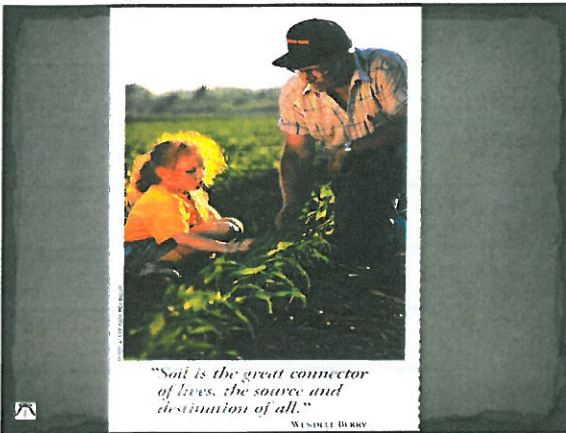
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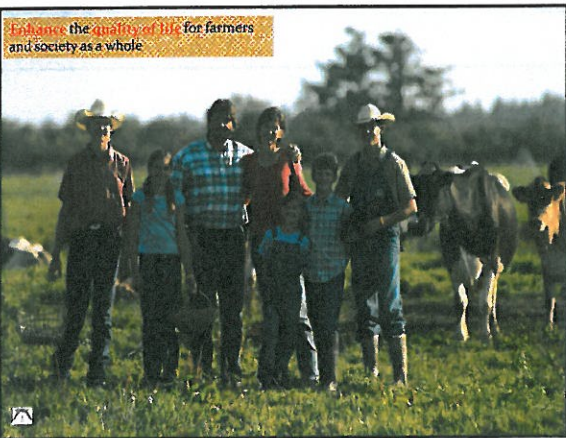
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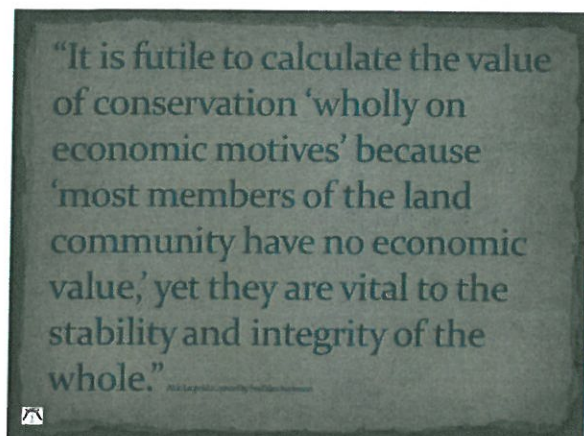
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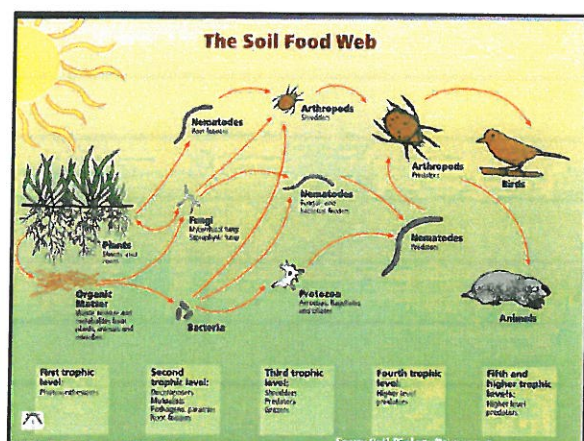
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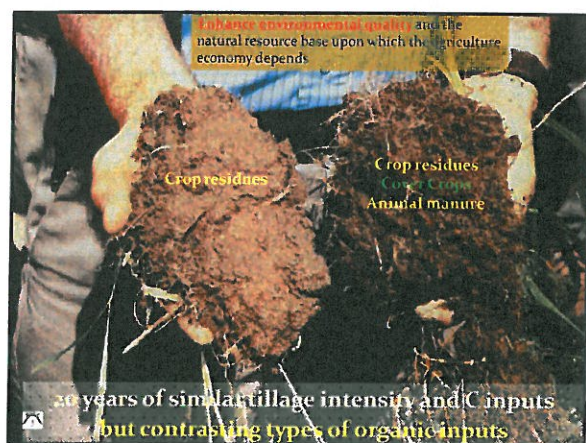
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Goals of Sustainable Farm Management	
Management	
Soil	Improve and maintain soil health (soil quality)
Crop	Produce high-quality crops in quantities sufficient to sustain economic viability of the farm
Pest	Prevent damage to crops and farm from weeds, insect pests, and diseases while improving and maintaining the ecological health of the farm
Marketing	Obtain a price for crops that sustains the farm family and farm

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### A Working Understanding of the Soil

- How much can a field produce
- Useable water per foot of soil
- Understanding soil types, textures and how water moves through it
- Macropores; Micropores; Biopores

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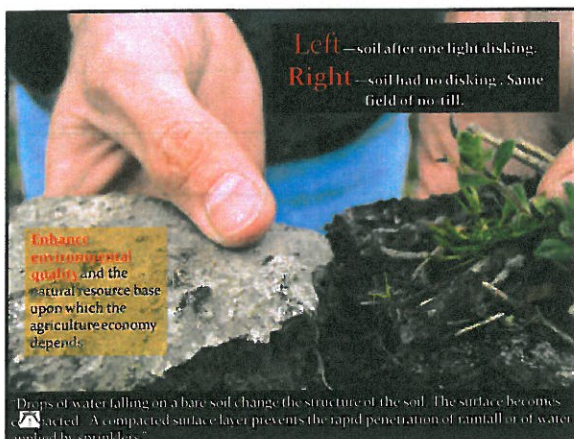
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**Left**—soil after one light disking.  
**Right**—soil had no disking. Same field of no till.

Enhance environmental quality and the natural resource base upon which the agriculture economy depends.

Drops of water falling on a bare soil change the structure of the soil. The surface becomes compacted. A compacted surface layer prevents the rapid penetration of rainfall or of water pushed by windblasts.

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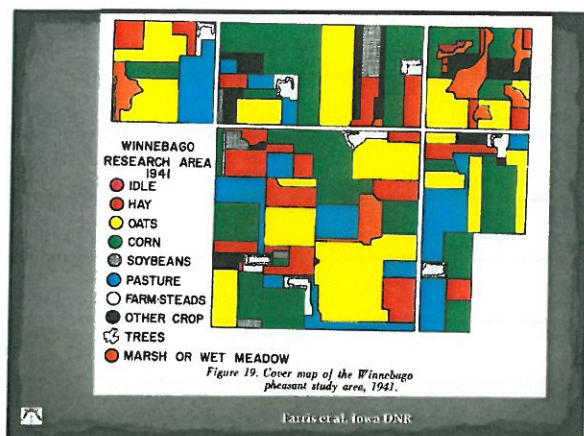
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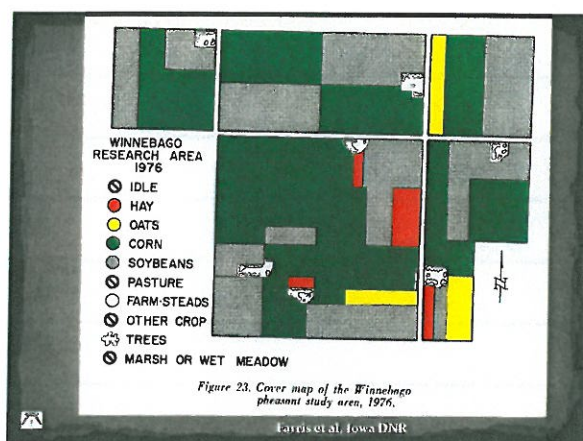
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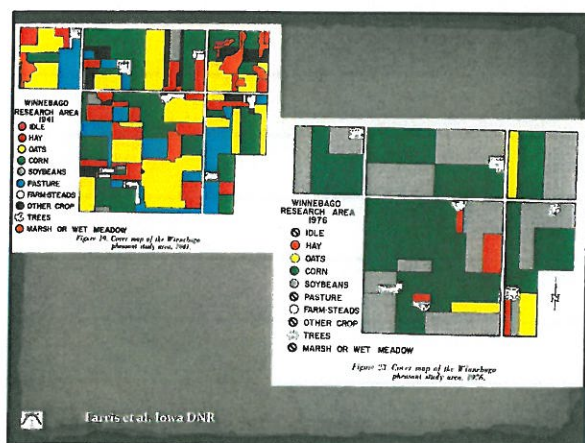
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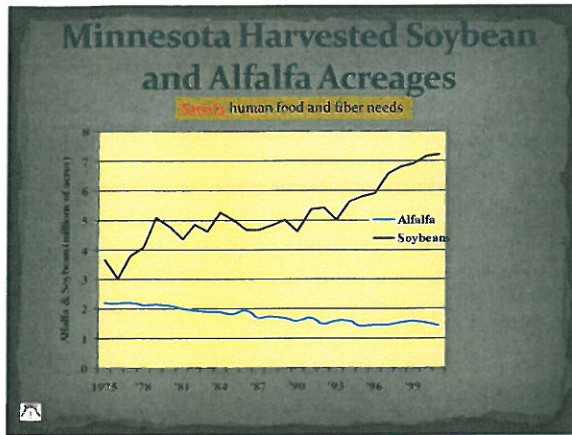
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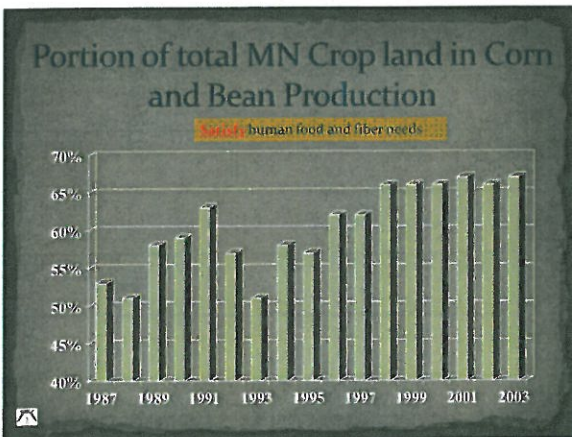
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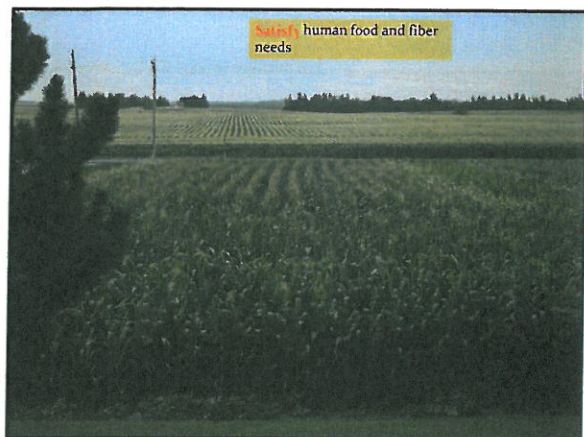
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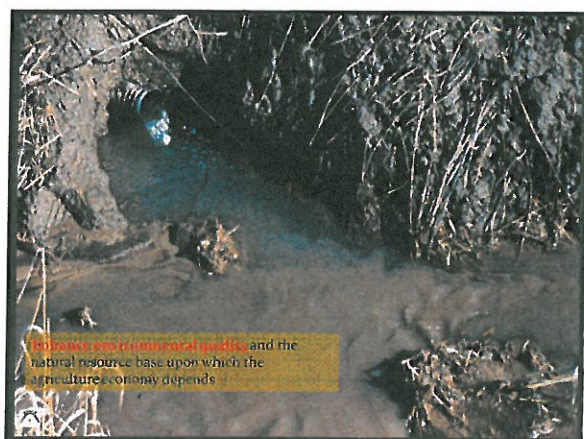
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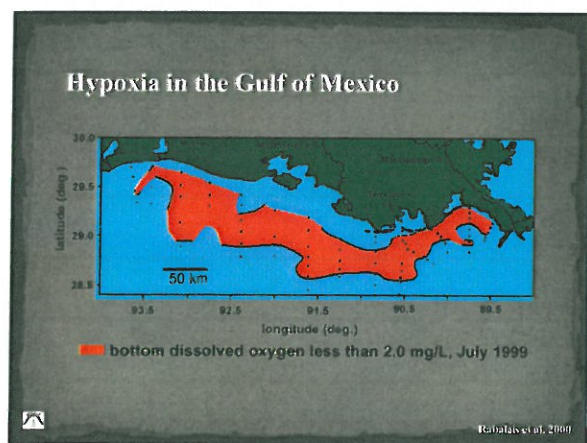
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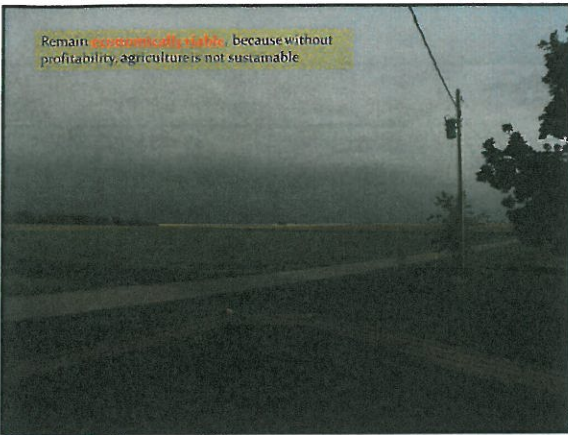
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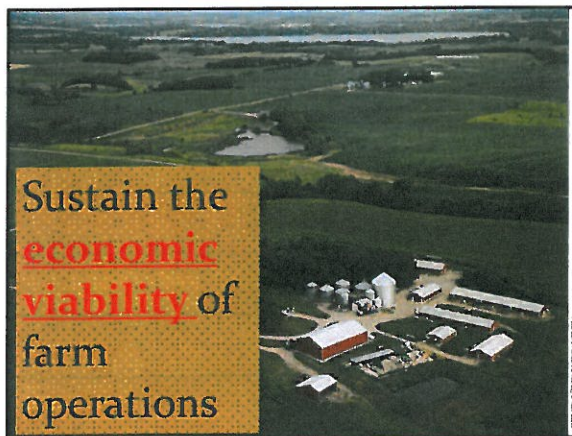
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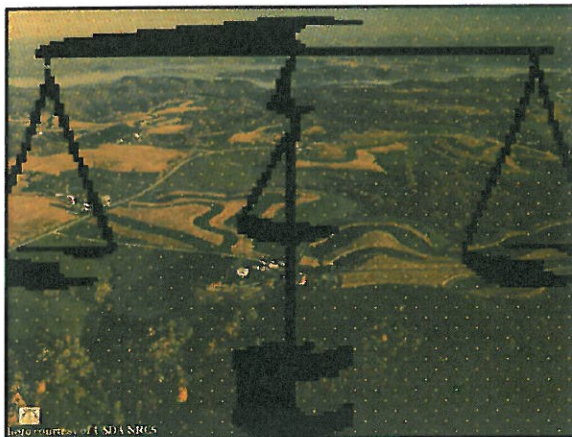
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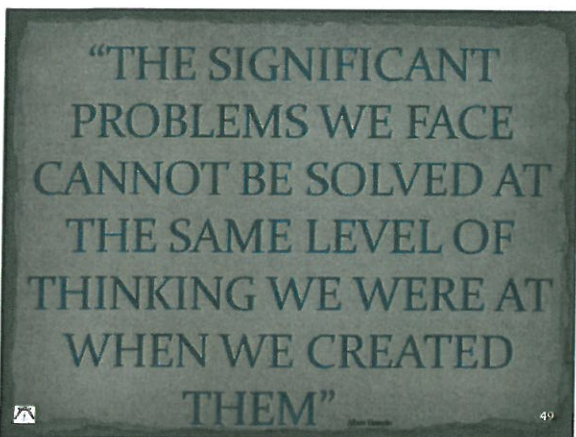
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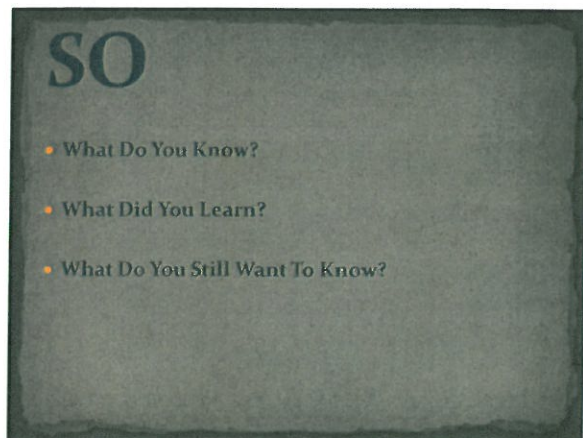
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1 in 14 families in America  
can't provide enough food for their  
families.